AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning on page 9, line 22 with the following paragraph:

Each sensing circuit, 82 and 84, preferably employs one or more low power, precision amplifiers with programmable gain and/or automatic gain control, bandpass filtering, and a threshold detection circuit, as known in the art, to selectively sense the cardiac signal of interest. The automatic gain control enables the device 10 to deal effectively with the difficult problem of sensing the low amplitude signal characteristics of atrial or ventricular fibrillation. The outputs of the atrial and ventricular sensing circuits, 82 and 84, are connected to the microcontroller 60 which, in turn, are able to trigger or inhibit the atrial and ventricular pulse generators, 70 and 72, respectively, in a demand fashion in response to the absence or presence of cardiac activity in the appropriate chambers of the heart. The sensing circuits, 82 and 84, in turn, receive control signals over signal lines, 86 and 88, from the microcontroller 60.

Please replace the paragraph beginning on page 10, line 18 with the following paragraph:

Cardiac signals are also applied to the inputs of an analog-to-digital (A/D) data acquisition system 90. The data acquisition system 90 is configured to acquire intracardiac electrogram signals, convert the raw analog data into a digital signal, and store the digital signals for later processing and/or telemetric transmission to an external device 102. The data acquisition system 90 may be through the switch 74 to sample atrial signals across any pair of desired electrodes. The data acquisition

system 90 may receive control signals from the microcontroller 60 over control signal line 92.

Please replace the paragraph beginning on page 13, line 15 with the following paragraph:

Fig. 3 illustrates a portion of the device 10 showing the header 16 and a contiguous portion of the housing 14. The housing is a generally flat thin-walled titanium shell (either commercially pure or an alloy such as 6Al4V) with two halves joined at a peripheral seam that forms a line of symmetry along the median of a peripheral [[wall..]] wall. The halves are welded together for a hermetic seal.

Please replace the paragraph beginning on page 16, line 11 with the following paragraph:

A transparent optical housing element or dome 250 has an elongated cylindrical shape with a circular cross section. The dome element is closed at one end, and open at a free end to define a circular rim 241. The rim is closely received in the ring bore 230, and gold-brazed therein to provide a hermetic seal. Together, the dome 250, ring 226, and insert 236 define a leak-proof optical chamber 252 that contains the emitter and detector. The chamber is ~~peak-proof~~ leak-proof with respect to the exterior of the device, and with respect to the housing chamber.

Please replace the paragraph beginning on page 17, line 7 with the following paragraph:

The dome need not be fully hermetic as provided by the preferred embodiment. A leak-proof seal that excludes body fluids but which is not fully hermetic may be suitable. A hermetic seal of the device housing 14 is preferred at the aperture 224. In such non-hermetic embodiments, a silicone seal between the dome and ring may be used instead of the gold brazing used for hermeticity. Also, some light-transmissive plastics and epoxy materials may be used for the dome

material, and the dome chamber may be evacuated, gas-filled, or filled by a light-transmissive encapsulant such as epoxy or silicone. Another suitable dome material for certain embodiments is an optical quality thermoplastic elastomer such as ~~Tecothane~~ TECOTHANE polyurethane-based biomedical elastomer from Thermedics.